Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Interference Immunity Performance	)	
Specifications for Radio Receivers	)	ET Docket No. 03-65
	)	
Review of the Commission's Rules and Policies	)	MM Docket No. 00-39
Affecting the Conversion to Digital Television	)	

COMMENTS OF THE

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association ("TIA") submits these comments in response to the *Notice of Inquiry*[1] in the above-captioned proceeding. At this stage of the proceeding, TIA is submitting for the Commission's consideration streamlined comments to set forth key points regarding interference immunity and receiver specifications. Should the Commission subsequently move forward with more specific proposals, TIA of course will address those in more detail.

TIA is the leading trade association representing the communications and information technology industry, with 700 member companies that manufacture or supply the products and services used in global communications. Among their numerous lines of business, TIA member companies design, produce and deploy terrestrial and satellite wireless network and terminal equipment.

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[1] *Notice of Inquiry*, FCC 03-54 (rel. Mar. 24, 2003).

TIA members have implemented a variety of creative techniques, from spread spectrum and frequency hopping to digital modulation and smart antennas, to respond to customer needs and at the same time make efficient use of the spectrum. Customer demand for wireless services and investment by manufacturers has led to the development of various digital technologies standardized by TIA or other voluntary standards development organizations, including Code Division Multiple Access ("CDMA"), Global System for Mobile ("GSM"), Project 25 ("P25"), and Scalable Adaptive Modulation ("SAM"), as well as new 2.5G and 3G cellular techniques. Such industry innovations have made it possible for numerous wireless systems responding to customer demands to coexist within the available spectrum. In addition, receiver manufacturers are continuing voluntarily to make significant improvements in their products, particularly in the area of interference immunity, indoor reception, and multipath signal handling capabilities. Therefore, TIA questions the need for mandatory receiver requirements. As the Commission has noted in the past, regulations may be needed when the market place fails to address a critical problem. In this instance, however, TIA believes that no record of evidence exists to merit such action.

TIA believes that should such a record be developed and demonstrated and the Commission deliberates whether to move forward with more specific rules related to interference immunity and receiver standards, the FCC should consider the following key points:

- In general, interference mitigation must be addressed from an overall "system" perspective, not merely by imposing receiver standards. Good engineering practices should be in place when designing and implementing both transmitters and receivers. There are different types of interference and practical mitigation techniques should be matched to the problem predicted or being experienced.

- The radio frequency ("RF") environment and the service provided are the primary factors that determine the receiver performance specifications. Receiver manufacturers understand these factors to the greatest degree and should be permitted to make appropriate design and cost trade-offs

necessary to compete in the market. A receiver manufacturer can voluntarily choose to innovate based on market need or the desire to differentiate its product from that of competitors. FCC rules should focus on the end result desired and let manufacturers determine the specific method or circuit design to reach the goal.

- Equipment manufacturers who are motivated by market demands will be in the best position to respond quickly to marketplace changes which may necessitate the development of voluntary, industry standards. This has been demonstrated in the case of Commercial Mobile Radio Service ("CMRS") equipment, which incorporates stringent, industry-developed receiver performance specifications to mitigate interference and increase efficiency. However, if the Commission ultimately decides to impose receiver standards, those standards should be based on industry definitions, *e.g.*, for private land mobile radio services, TIA/ANSI 102 and 603.

- Where industry already develops receiver specifications, generally it is done through internationally recognized standards bodies in order to ensure economies of scale in the global marketplace. Attempts to mandate specifications may inhibit the sharing of common solutions and create a situation where products developed and marketed in the U.S. will cost more.

- Mandatory receiver standards will not compensate for the absence of spectrum management that potentially arises as a result of excessive "flexibility" in the Commission rules. For example, where interference rights exist for primary services, the FCC still needs to incorporate adequate frequency separation between base and mobile transmit operations for paired channel mobile operations and make discrete allocations for incompatible technologies.

- TIA supports the current spectrum management approach of defining a service in terms of frequency band(s), transmitter power, the required shape of the emitted spectrum (*i.e.,* its spectral mask), limits on out-of-band and spurious emissions and guidelines on the nature of the service. This approach provides much of the information needed by manufacturers to design receivers responsive to market needs.

In summary, the wireless market is continually reinventing itself as enhancements are made to existing systems and new technologies are developed to permit enhanced services and capabilities. Allowing the industry to respond to the marketplace will ensure that overall system performance will continue to improve, in a timely manner.

Absent a demonstrated market place failure, TIA believes it is preferable to rely primarily on market demand for improved receiver performance in wireless services. Together with

appropriate Commission regulations on transmitter emissions, industry standards and voluntary receiver technology improvements should be able to address continued efficient and non-interfering use of the spectrum.

Respectfully submitted,

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